

MEK kinase-1 (C-22): sc-252

BACKGROUND

Mitogen-activated protein (MAP) kinase cascades are activated by various extracellular stimuli including growth factors. The MEK kinases (also designated MAP kinase kinase kinases, MKKKs, MAP3Ks or MEKKs) phosphorylate and thereby activate the MEKs (also called MAP kinase kinases or MKKs), including ERK, JNK and p38. These activated MEKs in turn phosphorylate and activate the MAP kinases. The MEK kinases include Raf-1, Raf-B, Mos, MEK kinase-1, MEK kinase-2, MEK kinase-3, MEK kinase-4, ASK 1 (MEK kinase-5) and MAP3K6 (MEK kinase-6). MEK kinase-1 activates the ERK and c-Jun NH₂-terminal kinase (JNK) pathways by phosphorylation of MAP2K1 and MAP2K4, and also activates the central protein kinases of the NFκB pathway, CHUK and IKBKB. Additionally, MEK kinase-1 uses an E3 ligase through its PHD domain, a RING-finger-like structure, to target proteins for degradation through ubiquitination.

CHROMOSOMAL LOCATION

Genetic locus: MAP3K1 (human) mapping to 5q11.2; Map3k1 (mouse) mapping to 13 D2.2.

SOURCE

MEK kinase-1 (C-22) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of MEK kinase-1 of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-252 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for ChIP application, sc-252 X, 200 µg/0.1 ml.

APPLICATIONS

MEK kinase-1 (C-22) is recommended for detection of MEK kinase-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MEK kinase-1 (C-22) is also recommended for detection of MEK kinase-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MEK kinase-1 siRNA (h): sc-35898, MEK kinase-1 siRNA (m): sc-35899, MEK kinase-1 shRNA Plasmid (h): sc-35898-SH, MEK kinase-1 shRNA Plasmid (m): sc-35899-SH, MEK kinase-1 shRNA (h) Lentiviral Particles: sc-35898-V and MEK kinase-1 shRNA (m) Lentiviral Particles: sc-35899-V.

MEK kinase-1 (C-22) X TransCruz antibody is recommended for ChIP assays.

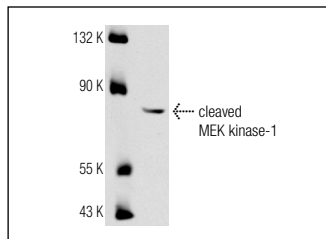
Molecular Weight of full length MEK kinase-1: 195 kDa.

Molecular Weight of cleaved MEK kinase-1: 80 kDa.

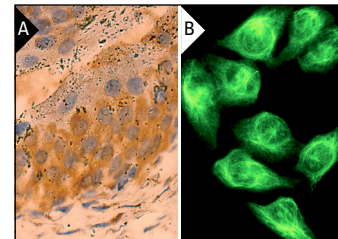
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



MEK kinase-1 (C-22): sc-252. Western blot analysis of cleaved MEK kinase-1 expression in A-431 whole cell lysate.



MEK kinase-1 (C-22): sc-252. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse lymph node showing cytoplasmic localization (A). Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

- Minden, A., et al. 1994. Differential activation of ERK and JNK mitogen-activated protein kinases by Raf-1 and MEKK. *Science* 266: 1719-1723.
- Islam, M.R., et al. 2010. MAP/ERK kinase kinase 1 (MEKK1) mediates transcriptional repression by interacting with polycystic kidney disease-1 (PKD1) promoter-bound p53 tumor suppressor protein. *J. Biol. Chem.* 285: 38818-38831.
- Adhikary, G., et al. 2010. PKC-δ and -η, MEKK-1, MEK-6, MEK-3, and p38-δ are essential mediators of the response of normal human epidermal keratinocytes to differentiating agents. *J. Invest. Dermatol.* 130: 2017-2030.
- Ear, T., et al. 2010. Constitutive association of TGFβ-activated kinase 1 with the IκB kinase complex in the nucleus and cytoplasm of human neutrophils and its impact on downstream processes. *J. Immunol.* 184: 3897-3906.
- Tong, X., et al. 2014. The compensatory enrichment of sphingosine -1-phosphate harbored on glycosylated high-density lipoprotein restores endothelial protective function in type 2 diabetes mellitus. *Cardiovasc Diabetol.* 13: 82.
- Resch, U., et al. 2014. Polyubiquitinated tristetraprolin protects from TNF-induced, caspase-mediated apoptosis. *J. Biol. Chem.* 289: 25088-25100.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS
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Try **MEK kinase-1 (F-11): sc-17820** or **MEK kinase-1 (1-9C-2A): sc-449**, our highly recommended monoclonal alternatives to MEK kinase-1 (C-22).